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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/608,747	06/30/2000	Nader Vijeh	LANT-001	1562

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EXAMINER

PHAN, TRI H

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 12/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/608,747

Applicant(s)

VIJEH ET AL.

Examiner

Tri H. Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.
2. The drawing in Figures 5 is objected to because all blocks should be labeled with descriptive legends based on 37 C.F.R. § 1.84(o) for supporting the objection in the Rules and M.P.E.P. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 25-29 (the second claim 25 to claim 29) have been renumbered to claims 26-30 and in claim 28 (new claim 29), line 1, substitute "Claim 27" to -- Claim 28 --.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-29 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-26 of copending Application No. 09/608489 filed on June 30th, 2000. Although the conflicting claims are not identical, they are not patentably distinct from each other because both applications disclose a method and system for allocating flow bandwidth, regulating data rate on a per-flow basis and deallocating the available bandwidth due to the congestion, in order to optimize the utilization of the asynchronous metropolitan packet transportation ring capacity having guaranteed QoS. Claims 1-30 of the application # 09/608489 are found in claims 1-29 of the claimed invention.

For example, claims 1-2 of the invention disclose that the metropolitan area packet ring comprises a fiber optic loop carrying asynchronous data packets, wherein the asynchronous data packets flow in one direction through the fiber optic loop, a plurality of metropolitan packet

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switches coupled to the fiber optic loop, wherein a metropolitan packet switch is comprised of an I/O port coupled to the fiber optic loop which inserts packets of data onto the fiber optic loop and which pulls packets of data off the fiber optic loop, a processor coupled to the I/O port which separately regulates data packets transmitted over the fiber optic loop, wherein quality of service is guaranteed (claim 1 of the invention); wherein bandwidth is allocated on a per-flow basis (claim 2 of the invention).

Claims 1-2 of the application # 09/608489 disclose that the metropolitan area packet ring comprises a fiber optic loop carrying asynchronous data packets, wherein the asynchronous data packets flow in one direction through the fiber optic loop, a plurality of metropolitan packet switches coupled to the fiber optic loop, wherein a metropolitan packet switch is comprised of an I/O port coupled to the fiber optic loop which inserts packets of data onto the fiber optic loop and which pulls packets of data off the fiber optic loop, a processor coupled to the I/O port which separately regulates data packets transmitted over the fiber optic loop on a per-flow basis (claim 1 of application # 09/608489); wherein the processor regulates data rates to guarantee quality of service on a per-flow basis (claim 2 of application # 09/608489). However, it is obvious that bandwidth and data rate are the same.

Therefore, it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to use the regulated data rates on a per-flow basis (claims 1-2 of the application # 09/608489) as the allocated bandwidth on a per-flow basis (claims 1-2 of the invention).

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This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-6, 10-16 and 18-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lahat et al.** (U.S.6,233,074) in view of **Chin et al.** (U.S.6,314,110).

- In regard to claims 1 and 18, **Lahat** discloses in Figs. 5-8 and in the respective portions of the specification about the fibre optical ring network ("*fiber optical loop*"; For example see Fig. 5; Col. 8, Lines 21-43), where the connections between switches ("*metropolitan packet switches*") with different protocols such as Ethernet, ATM, FDDI, etc. ("*asynchronous data packets*"), are established via the optical add drop module 'OADM' interface at the switches as disclosed in Fig. 8; Col. 11, Line 65 through Col. 12, Line 37; wherein the data signal is converted into different wavelengths via the protocol conversion, adds ("*inserting data onto the fiber optical loop*") and drops ("*pulling data off the fiber optical loop*") data signal at the optical signal input and output ("*I/O port, first and second ports*") controlled by the controller ("*processor*") for each user with different channels or wavelengths ("*separately regulating*

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transmitted data over the fiber optic loop"; For example see Col. 11, Lines 30-47) in order to control the demand of the bandwidth (For example see Figs. 6-8; Col. 9, Line 33 through Col. 11, Line 19); where the control of the bandwidth from overload disclosed in Col. 2, Lines 49-61 is just a consequence of the "*guaranteed quality of service*". **Lahat** fails to specifically disclose about the "*quality of service*". However, such implementation is known in the art.

Chin discloses in Figs. 1-5 and in the respective portions of the specification about the system and method for distributing a fair allocated bandwidth for the bi-directional ring network with spatial and local reuse method (For example see Col. 5, Lines 40-47; Col. 7, Lines 31-45); wherein each node in the ring checks and regulates the amount of its own traffic according to its allocated usage ("*separately regulating transmitted data over the fiber optic loop*"; For example see Fig. 4; Col. 10, Line 55 through Col. 11, Line 16) with the packet's priority ("*quality of service is guaranteed*"; wherein the high and low priority traffic are provided with the bandwidth allocation scheme disclosed in Col. 2, Lines 54-67).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Chin**, by implementing the bandwidth allocation scheme with guaranteed quality of service in **Lahat**'s bandwidth control system with the motivation being to improve the ability to transfer data with the guaranteed quality of service.

- Regarding claims 2, 4, 10, 12, 15-16, 19, 22, 26 and 30, **Lahat** further discloses that the bandwidth is provided for a plurality of optical channels with different wavelengths ("*available bandwidth is allocated amongst a plurality of flows*"; For example see Col. 8, Lines 55-61);

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wherein the additional wavelengths are added for users demands (“*allocated bandwidth on a per-flow basis*”; For example see Col. 11, Lines 38-47). **Lahat** does disclose that the data rates in the Ethernet network are in the range from OC-3 to OC 12 on the optical fiber, but fails to specifically disclose about the “*10 gigabit Ethernet*”. However, Ethernet 802.3 or OC-192 are well known in the art for transferring data at the rate of “*10 gigabit Ethernet*”.

Therefore, it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to use the Ethernet 802.3 or OC-192 for transferring data at the rate of “*10 gigabit Ethernet*” in the **Lahat**’s system.

- In regard to claim 3, 13, 20-21 and 28-29, **Lahat** does disclose about the bandwidth control via the method of adding/dropping data signal for unicast and multicast connections (“set of subscribers”; For example see Col. 6, Line 45 through Col. 7, Line 8), but fails to disclose about the method for decreasing “*data rate due to the congestion*”. However, such implementation is known in the art.

For example, **Chin** further discloses that each node in the ring checks and regulates the amount of its own traffic according to its allocated usage with the packet’s priority (“*quality of service is guaranteed*”; wherein the high and low priority traffic are provided with the bandwidth allocation scheme disclosed in Col. 2, Lines 54-67); wherein, due to the congestion, decreasing the allocated bandwidth, i.e. “*data rate*”, toward the minimum available bandwidth at the node through the use of management scheme (“*decreasing or adjusting data rate to the minimum bandwidth due to the congestion*”; For example see Col. 3, Lines 14-54; Col. 5, Lines 40-47).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Chin**, by implementing the bandwidth allocation management scheme with decreasing bandwidth in **Lahat**'s bandwidth control system with the motivation being to improve the ability to transfer data with the guaranteed quality of service.

- Regarding claims 5-6, 14, 23-24 and 27, **Lahat** further fails to disclose about "*the allocated bandwidth according to the pre-determined weighting scheme*" in the fibre optical ring network ("*fiber optical loop*"). However, such implementation is known in the art.

For example, **Chin** further discloses about the bandwidth allocation scheme for different priority traffic ("*the allocated bandwidth according to the pre-determined weighting scheme*"; For example see Col. 2, Lines 54-67) through the use of management scheme ("*ring management system*"; For example see Col. 3, Line 14-34).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Chin**, by implementing the bandwidth allocation management scheme in **Lahat**'s bandwidth control system with the motivation being to improve the ability to transfer data with the guaranteed quality of service.

- In regard to claims 11 and 25, **Lahat** discloses in Figs. 5-8 and in the respective portions of the specification about the fibre optical ring network ("*metropolitan area packet ring*"; For example see Fig. 5; Col. 8, Lines 21-43), which connects between switches ("*switching devices*") and edge devices ("*plurality of devices*") with different protocols such as

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Ethernet, ATM, FDDI, etc. (*“asynchronous data packets”*), are established via the optical add drop module ‘OADM’ interface at the switches in order to control the demand of the bandwidth by add/drop wavelengths as disclosed in Fig. 8; Col. 11, Line 65 through Col. 12, Line 37; where the control of the bandwidth from overload disclosed in Col. 2, Lines 49-61 is just a consequence of the *“guaranteed quality of service”*. **Lahat** fails to specifically disclose about the *“quality of service”* and the method of *“providing the minimum bandwidth due to the congestion”*; however, such implementation is known in the art.

Chin discloses in Figs. 1-5 and in the respective portions of the specification about the system and method for distributing a fair allocated bandwidth for the bi-directional ring network with spatial and local reuse method (For example see Col. 5, Lines 40-47; Col. 7, Lines 31-45); wherein each node in the ring checks and regulates the amount of its own traffic according to its allocated usage (*“assigning and controlling transmitted data over the fiber optic loop”*; For example see Fig. 4; Col. 10, Line 55 through Col. 11, Line 16) with the packet’s priority (*“quality of service is guaranteed”*; wherein the high and low priority traffic are provided with the bandwidth allocation scheme disclosed in Col. 2, Lines 54-67); and wherein, due to the congestion, decreasing the allocated bandwidth toward the minimum available bandwidth at the node through the use of management scheme (*“providing the minimum bandwidth due to the congestion”*; For example see Col. 3, Lines 14-54).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Chin**, by implementing the bandwidth allocation scheme with guaranteed quality of service in **Lahat**’s bandwidth control

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system with the motivation being to improve the ability to control and transfer data with the guaranteed quality of service.

8. Claims 7-9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lahat et al.** (U.S.6,233,074) in view of **Chin et al.** (U.S.6,314,110) as applied to part 7 of this Office action above, and further in view of **Graves et al.** (U.S.6,229,788).

- In regard to claims 7-9 and 17, the combination of **Lahat** and **Chin**'s system discloses all the subject matter of the claimed invention as discussed in part 7 above of this Office action, including the method for allocating bandwidth to nodes in the ring network, i.e. Ethernet network, with the bandwidth allocation scheme for different priority traffic for data, voice or video (For example see **Chin**: Col. 2, Lines 54-67) through the use of management scheme with minimum bandwidth and delay via the use of spatial and local reuse method (For example see **Chin**: Col. 3, Line 14 through Col. 4, Line 9); but fails to specifically disclose about the rate shaping for the constant and variable bit rate in the QoS. However, such implementation is known in the art.

For example, **Graves** discloses in Figs. 3-4 and in the respective portions of the specification about the system and method for traffic shaping in the broadband fiber-based access system; wherein the constant bit rate 'CBR' ("*constanst bit rate*"; For example see Col. 1, Lines 26-65) and unspecified bit rate 'UBR' ("*variable bit rate*"; For example see Col. 1, Lines 26-65) are controlled by the traffic shappers ("*rate shaping*"; For example see Col. 10, Lines 24-29) disclosed in Col. 12, Line 5 through Col. 11, Line 11.

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Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to use the invention as taught by **Graves**, which implements the traffic shapper in the management scheme of **Lahat** and **Chin**'s system, with the motivation being to control the flow of different classes of traffic such as BC, CBR, UBR, in the broadband fiber-based access system.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Daruwalla et al. (U.S.6,269,452), **Chapman et al.** (U.S.6,643,292), **Black et al.** (U.S.6,614,796) and **Dantu et al.** (U.S.6,532,088) are all cited to show devices and methods for improving the distributed routing in the ring network architectures, which are considered pertinent to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri H. Phan, whose telephone number is (703) 305-7444. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Olms can be reached on (703) 305-4703.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

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or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor.

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Technology Center 2600 Customer Service Office, whose telephone
number is (703) 305-3900.



Tri H. Phan
December 1, 2003



DANGSTON
PRIMARY EXAMINER